A Glance at Washington's Tuberculosis Cohort Review

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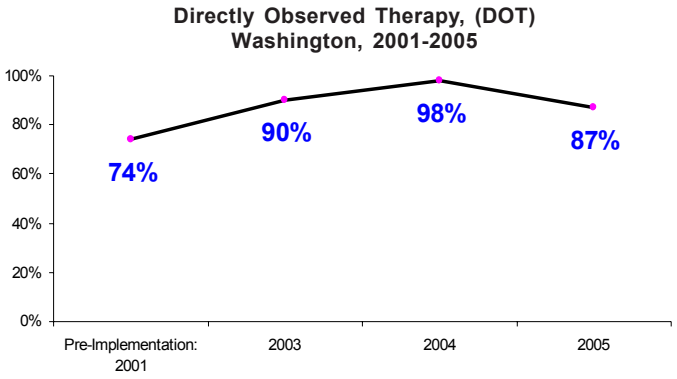
Background

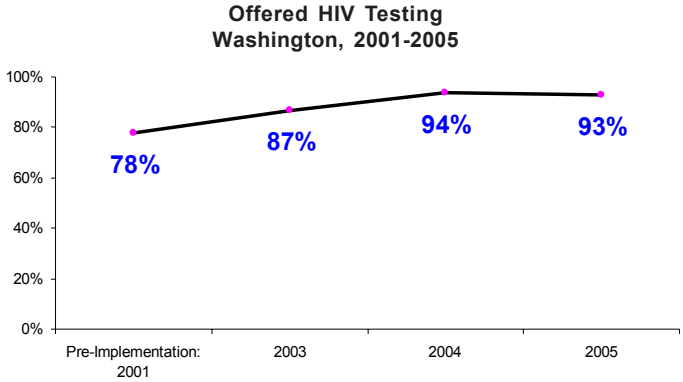
Cohort review is a systematic review of patients with tuberculosis (TB) disease and their contacts. A "cohort" of patients is reviewed on a quarterly basis. The WA TB Program implemented cohort review in May of 2003 in response to poor case management, disease outcomes, and an outbreak. A comparison of TB outcomes prior to the implementation of cohort review (2001) vs. 2003-2005 are included in this document. Data for 2002 are not included because that was considered a pilot year.

Case Outcomes

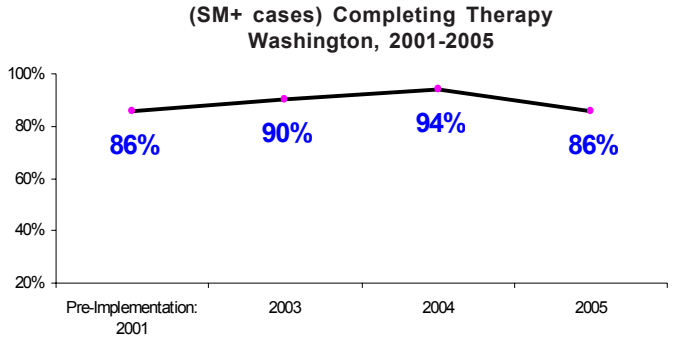
The percentage of cases on Directly Observed Therapy (DOT) has improved since implementation of cohort review. Being on DOT means a patient either was on DOT for the full course of their treatment or started on DOT and moved to self-administration of their therapy.



The percentage of cases offered HIV testing has also improved since implementation of cohort review. HIV status was reported for 78% of TB cases in 2005 vs. 63% in 2001 (data not shown).



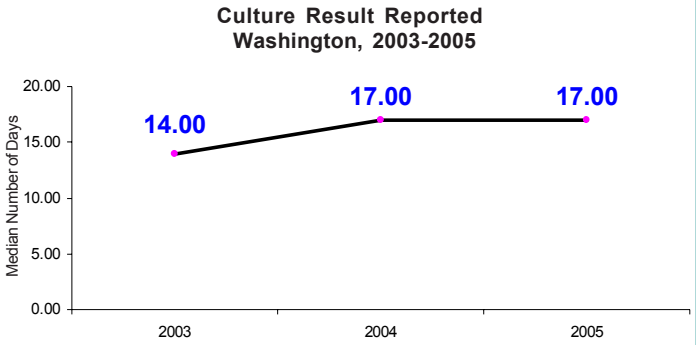
Although the percentage of infectious cases (sputum smear+) completing TB therapy increased since implementation, in 2005 the percentage dropped to pre-implementation levels. This might be due to factors that can affect medication adherence. In the 2005 group (n=85 cases); 62% were foreign-born, 22% were homeless, 6% were HIV+, and 13% were drug resistant.



Timeliness Measures

Part of what makes the WA cohort review process unique is the inclusion of timeliness measures or, the review of the length of time it takes to report specificities of a TB case and contact. The median (middle) number of days between identification/ confirmation of disease and specific public health activities is analyzed. These measures were not introduced until 2003.

From 2003-2005, the time it took to collect a culture and have the lab report the results back to the health department was a little over two weeks.

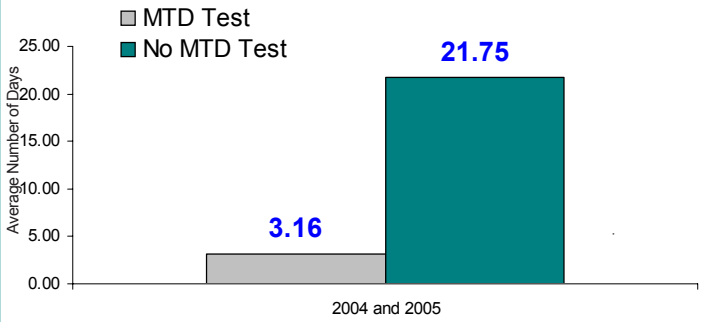


Often in outbreak situations, waiting 2-8 weeks for results can prove costly. However, with new direct molecular (MTD) methods that do not require growth of the bacteria, it is possible to detect *M. tuberculosis*

Timeliness Measures (continued)

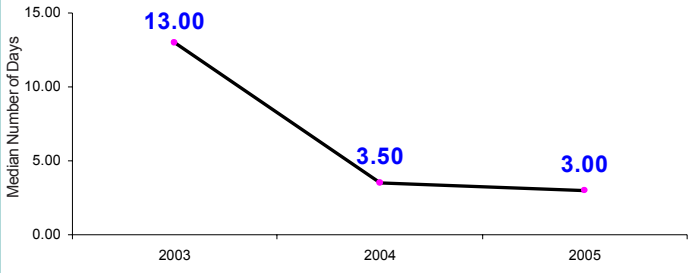
complex within 3-5 hours. The implications of rapid diagnostic tests for hospitals and clinics are significant: improved patient care, reduced medical costs, and more effective use of isolation rooms. In 2004, the WA TB program included MTD indicators in order to compare smear - culture + cases that had an MTD test to those cases that did not have one. For 2004-2005 combined, cases that had an MTD test started their TB medication almost seven times faster than those who did not have an MTD test.

(SM-CU+ cases) Time Between Culture Collected to Medication Starting
Washington, 2004-2005 Combined



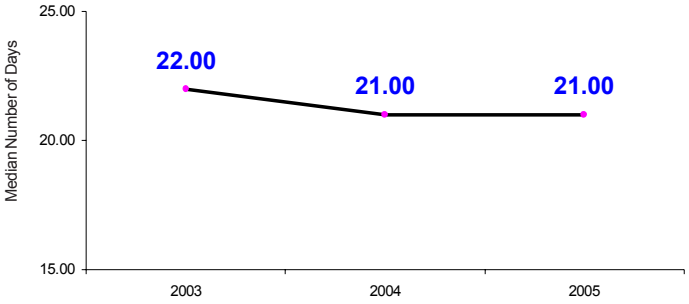
From 2003-2005, the time it took for Local Health Jurisdictions (LHJs) to report cases to the state health department improved. In 2005, LHJs were reporting cases to the health department within three days of the case's smear + result.

(SM+ cases) Time Between Smear+ Result to LHJ Report of Case to State Health Department
Washington, 2003-2005



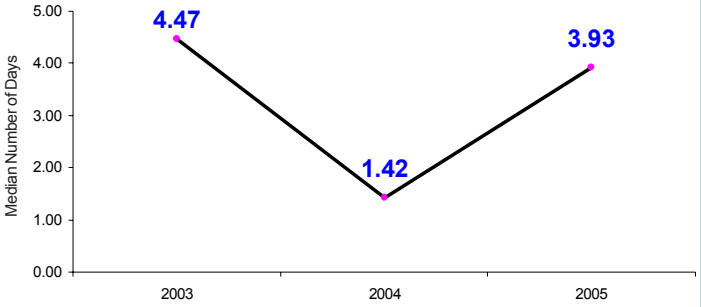
Drug susceptibility testing results are recommended to be reported to the health department within 28 days of testing a culture+ case. From 2003-2005, susceptibility results were reported back to the health department in under 28 days.

(Culture+ cases) Time Between Sputum Collected to Susceptibilities Reported to State Health Department
Washington, 2003-2005



Identifying contacts to infectious cases (smear+ or cavitary chest x-ray) is a key component in the fight to stop the spread of TB. Identifying contacts quickly is important in containing an outbreak. In 2003, contacts to smear+ cases were identified in less than 5 days, by 2004 that time was halved. In 2005 however, the average time it took to identify a contact was almost 4 days from the case's smear+ result.

(Smear+ cases) Time Between Smear+ Result to Identification of the first Contact
Washington, 2003-2005



Linking Outcomes to Cohort Review

In 2006, a self-administered survey was sent out to the WA TB community that has participated in cohort review. The goal was to link improved disease outcomes to the cohort review process and document staff behavior change. Survey results showed more staff administered DOT to their patients, screened for HIV, prioritized their screening for contacts, and knew about timeliness guidelines after participating in cohort review.

The survey results identified cohort review as having some impact on the achievements seen in the 2004 outcomes. These results demonstrate that cohort review might be an effective tool in improving TB disease outcomes.